B-SCI Bachelor of Science

Year and Campus:	2011 - Parkville
CRICOS Code:	002153M
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Undergraduate
Duration & Credit Points:	300 credit points taken over 36 months full time. This course is available as full or part time.
Coordinator:	The Program Director for the Bachelor of Science is Associate Professor Michelle Livett
Contact:	**Eastern Precinct Student Centre** The Eastern Precinct (building 138) (between Doug McDonell building and Eastern Resource Centre) *Enquiries* Phone: 13 MELB (13 6352) Email: **13MELB@unimelb.edu.au (mailto:13MELB@unimelb.edu.au)**
Course Overview:	The Bachelor of Science (BSc) course is designed to provide excellent science education across a broad range of science and technology areas of study and equip students with a range of knowledge and skills to enhance their science studies. The degree will provide flexible pathways to employment, research higher degrees and many professional postgraduate programs.
Objectives:	The Bachelor of Science has the objective of preparing graduates who embody the University of Melbourne graduate attributes, as well as additional attributes more specific to the BSc. These BSc-specific attributes are incorporated into the University graduate attributes summary (see 'Graduate Attributes') and are indicated in italics.

Course Structure & Available Subjects:	Students commencing the BSc from 2011 onwards
	Successful completion of 300 points comprising:
	# 225 points of science subjects including:
	  # At least 62.5 points at Level 1
	  # At least 62.5 points at Level 2
	  # At least 75 points at Level 3 (including 50 points of a prescribed science major at Level 3)
	# 50 points of breadth subjects including at least 12.5 points at Level 2 or Level 3
	# 25 points (either science subjects or breadth subjects) at Level 1, 2 or 3
	Additional requirements:
	# No more than 125 points at Level 1 may be included in the BSc
	# No more than 37.5 points of breadth at Level 1 may be included in the BSc
	# Progression: Students must normally complete 50 points of study at one subject year level before proceeding to the next subject year level.
	# Diversity of Level 1 science study: Students must complete Level 1 subjects from at least two different areas of study. A maximum of 37.5 points at Level 1 from any single area of study may be completed. The areas of study available are: Biology; Chemistry; Earth Sciences; Engineering Systems; Geography and Environments; Informatics; Mathematics and Statistics; Physics; Psychology; Vision Sciences
	Science points.
	Subjects attracting science points in the BSc are listed below.
	Special Arrangements:
	In the case of the study area of History and Philosophy of Science (HPS), students who seek to undertake further subjects in order to complete the equivalent of a major in HPS will be permitted to take up to 25 points of additional breadth study in HPS, replacing 25 points of the science requirements of the BSc. These students will be required to satisfy all other completion requirements of the BSc.
	Students who commenced the BSc prior to 2011

Successful completion of 300 points comprising:

225 points of science subjects including:

- between 62.5 and 100 points at Level 1;
- at least 125 points across Level 2 and Level 3;
- completion of 50 points of a prescribed science major at Level 3.

Plus either

- 75 points of breadth subjects including:
  - between 12.5 and 37.5 points at Level 1;
  - at least 12.5 points at Level 3.

Or

- 50 points of breadth subjects including at least 12.5 points at Level 2 or Level 3 and
- 25 points (either science subjects or breadth subjects) at Level 1, 2 or 3

Additional requirements

- Students may complete no more than 37.5 points of breadth at Level 1;
- Students must complete between 75 and 125 points at Level 1 across both components (science and breadth subjects);
- Students must complete at least 75 points at Level 3 as part of the Bachelor of Science.
- Progression: Students must complete at least 50 science points at Level 1 before proceeding to Level 2 science subjects;
- Diversity of Level 1 science study: Students must complete Level 1 subjects from at least two different areas of study. A maximum of 37.5 points at Level 1 from any single area of study may be completed. The areas of study available are: Biology; Chemistry; Earth Sciences; Engineering Systems; Geography and Environments; Informatics; Mathematics and Statistics; Physics; Psychology; Vision Sciences.

Science points.

Subjects attracting science points in the BSc are listed below
Special Arrangements

In the case of the study area of History and Philosophy of Science (HPS), students who seek to undertake further subjects in order to complete the equivalent of a major in HPS will be permitted to take up to 25 points of additional breadth study in HPS, replacing 25 points of the science requirements of the BSc. These students will be required to satisfy all other completion requirements of the BSc.

Majors/Minors/ Specialisations

Completion of 50 points of study at third year level.

A number of these science majors include specialisations. Descriptions of the specialisations are located within the majors.

Major/Minor/Specialisation
Agricultural Science
Animal Health and Disease
Animal Science and Management
Atmosphere and Ocean Science
Biochemistry and Molecular Biology
Bioengineering Systems
Biotechnology
Cell and Developmental Biology
Chemical Systems
Chemistry
Civil Systems

Computer Science
Ecology and Evolutionary Biology
Electrical Systems
Environmental Science
Food Science
Genetics
Geography
Geology
Geomatics
Human Structure and Function
Marine Biology
Mathematical Physics
Mathematics and Statistics
Mechanical Systems
Microbiology, Infection and Immunology
Neuroscience
Pathology
Pharmacology
Physics
Physiology
Plant Science
Psychology
Science Informatics
Software Systems
Zoology

Subject Options:

The following lists of subjects are available for science credit with this course.

Subjects are arranged under headings for identified discipline study areas. A subject is listed only once in this section. Refer to related headings for alternative locations of a subject's listing.

Agricultural Science
Anatomy
Biochemistry and Molecular Biology
Biology (Level 1)
Biotechnology
Cell Biology
Chemistry
Computer Science and Software Engineering
Domestic Animal Science (includes subjects leading to the Animal Science and Management major)
Earth Sciences
Ecology
Engineering

Environments (Level 1)
Environmental Science
Food Science
Genetics
Geography
Geomatics
Informatics
Mathematics and Statistics
Microbiology and Immunology
Neuroscience
Pathology
Pharmacology
Physics
Physiology
Plant Science
Psychology
Science (General)
Science (Research)
Science Informatics
Veterinary Science
Vision Science (Level 1)
Zoology

Agricultural Science

Subject	Study Period Commencement:	Credit Points:
AGRI20026 Plant Growth Processes	Semester 1	12.50
EVSC20002 Soil and Water Resources	Semester 2	12.50
AGRI30003 Agricultural Systems Analysis	Semester 2	12.50
AGRI30031 Crop Production and Management	Semester 2	12.50
AGRI30029 Ecology & Management of Grazing Systems	Not offered 2011	12.50
DASC30008 Genetics and Animal Breeding	Not offered 2011	12.50
DASC30012 Intensive Animal Production	Not offered 2011	12.50
AGRI30030 Livestock Production Systems	Semester 1	12.50
AGRI30032 Plant Health and Improvement	Semester 1	12.50
BTCH30002 Trends & Issues in Agrifood Biotechnolog	Semester 1	12.50

Anatomy

Subject	Study Period Commencement:	Credit Points:
ANAT20006 Principles of Human Structure	Semester 1, Semester 2	12.50
CEDB30003 Developmental Biology	Semester 2	12.50
ANAT30007 Human Locomotor Systems	Semester 1	12.50
ANAT30008 Viscera and Visceral Systems	Semester 2	12.50

Biochemistry and Molecular Biology

Subject	Study Period Commencement:	Credit Points:
BCMB20003 Biochemical Regulation of Cell Function	Semester 2	12.50
BCMB20002 Biochemistry and Molecular Biology	Semester 1, Semester 2	12.50

BCMB20005 Techniques in Molecular Science	Semester 1, Semester 2	12.50
BCMB30010 Advanced Techniques in Molecular Science	Semester 1, Semester 2	12.50
BCMB30004 Cell Signalling and Neurochemistry	Semester 2	12.50
BCMB30002 Functional Genomics and Bioinformatics	Semester 1	12.50
BCMB30003 Molecular Aspects of Cell Biology	Semester 1	12.50
BCMB30001 Protein Structure and Function	Semester 2	12.50

Biology (Level 1)

Subject	Study Period Commencement:	Credit Points:
BIOL10001 Biology of Australian Flora & Fauna	Semester 2	12.50
BIOL10004 Biology of Cells and Organisms	Semester 1	12.50
BIOL10005 Genetics & The Evolution of Life	Semester 2	12.50

Biotechnology

Subject	Study Period Commencement:	Credit Points:
BTCH20002 Biotechnology	Semester 2	12.50
BTCH30003 Biotechnology in Practice	Semester 1	12.50
BTCH30001 Methods in Agrifood Biotechnology	Semester 1	12.50

Cell Biology

Subject	Study Period Commencement:	Credit Points:
CEDB20002 Cells, Tissues and Organs	Semester 2	12.50
CEDB20003 Fundamentals of Cell Biology	Semester 1	12.50
CEDB30002 Concepts in Cell & Developmental Biology	Semester 1	12.50

Chemistry

Subject	Study Period Commencement:	Credit Points:
CHEM10003 Chemistry 1	Semester 1, Semester 2	12.50
CHEM10004 Chemistry 2	January, Semester 2	12.50
CHEM10007 Fundamentals of Chemistry	Semester 1	12.50
CHEM20011 Environmental Chemistry	Semester 1	12.50
CHEM20019 Practical Chemistry 2	Semester 2	12.50
CHEM20018 Reactions and Synthesis	Semester 1	12.50
CHEM20020 Structure and Properties	Semester 2	12.50
CHEM30015 Advanced Practical Chemistry	Semester 1	12.50
CHEM30012 Analytical & Environmental Chemistry	Semester 2	12.50
CHEM30013 Chemical Research Project	Summer Term, Semester 2	12.50

CHEM30016 Reactivity and Mechanism	Semester 1	12.50
CHEM30017 Specialised Topics in Chemistry A	Semester 1	12.50
CHEM30014 Specialised Topics in Chemistry B	Semester 2	12.50

Computer Science and Software Engineering

Subject	Study Period Commencement:	Credit Points:
COMP20003 Algorithms and Data Structures	Not offered 2011	12.50
COMP20004 Discrete Structures	Not offered 2011	12.50
COMP20005 Engineering Computation	Not offered 2011	12.50
SWEN20003 Object Oriented Software Development	Not offered 2011	12.50
COMP20006 Programming the Machine	Not offered 2011	12.50
COMP30016 Computer Science Project	Not offered 2011	12.50
COMP30020 Declarative Programming	Not offered 2011	12.50
COMP30019 Graphics and Interaction	Not offered 2011	12.50
COMP30018 Knowledge Technologies	Not offered 2011	12.50
COMP30017 Operating Systems and Network Services	Not offered 2011	12.50
SWEN90006 Software Engineering Methods	Not offered 2011	12.50
SWEN30006 Software Modelling and Design	Not offered 2011	12.50
SWEN90008 Software Processes and Management	Not offered 2011	12.50
SWEN30007 Software Systems Project	Not offered 2011	12.50
COMP30021 Theoretical Computer Science	Not offered 2011	12.50

Domestic Animal Science

Subject	Study Period Commencement:	Credit Points:
DASC20010 Applied Animal Physiology	Semester 2	12.50
DASC20011 Companion Animal Biology	Semester 1	12.50
DASC20012 Comparative Nutrition and Digestion	Semester 1	12.50
DASC20013 Topics in Animal Health	Semester 2	12.50
DASC30014 Animal Performance	Semester 1	12.50
DASC30013 Animal Systems Analysis	Semester 2	12.50
DASC30015 Animal Welfare and Ethics	Semester 2	12.50
DASC30005 Applied Animal Behaviour	Semester 1	12.50
DASC30006 Applied Animal Reproduction & Genetics	Semester 1	12.50

Earth Sciences

Subject	Study Period Commencement:	Credit Points:
ERTH10001 The Global Environment	Not offered 2011	12.50

ERTH10002 Understanding Planet Earth	Semester 2	12.50
ATOC20002 Atmospheric Environment Processes	Semester 2	12.50
ERTH20001 Dangerous Earth	Semester 2	12.50
GEOL20003 Earth Composition, Minerals and Magmas	Semester 1	12.50
GEOL20004 Field Mapping and Sedimentary Geology	June	12.50
GEOL20001 Geology of Southeast Australia	February	12.50
GEOL20002 Structural and Metamorphic Geology	Semester 1	12.50
ATOC20001 Weather and Climate Systems	Semester 1	12.50
GEOL30009 Advanced Field Geology	July	12.50
GEOL30005 Applied Geophysics	Semester 2	12.50
ATOC30003 Atmosphere Ocean Interaction	Semester 2	12.50
ATOC30004 Dynamical Meteorology and Oceanography	Semester 1	12.50
GEOL30006 Economic Geology	Semester 2	12.50
GEOL30004 Geochemistry & Petrogenesis	Semester 1	12.50
ATOC30005 Global Climates of the Past	Semester 1	12.50
ERTH30001 Hydrogeology and Environmental Geology	Not offered 2011	12.50
ATOC30006 Modern and Future Climate	Semester 2	12.50
GEOL30003 Sedimentary Geology	Semester 2	12.50
GEOL30002 Tectonics & Geodynamics	Semester 1	12.50
GEOL30007 Geobiology and Palaeobiology	Semester 1	12.50

Ecology

Subject	Study Period Commencement:	Credit Points:
ECOL20003 Ecology	Semester 2	12.50
ECOL30005 Applied Ecology	Semester 2	12.50
ECOL30006 Ecology in Changing Environments	Not offered 2011	12.50

Engineering

Subject	Study Period Commencement:	Credit Points:
ENGR10004 Engineering Systems Design 1	Semester 1, Semester 2	12.50
ENGR10003 Engineering Systems Design 2	Not offered 2011	12.50
CHEN20007 Chemical Process Analysis 1	Semester 1, Semester 2	12.50
CHEN20008 Chemical Process Analysis 2	Semester 2	12.50
ENEN20002 Earth Processes for Engineering	Not offered 2011	12.50
ENGR20003 Engineering Materials	Not offered 2011	12.50

ENGR20004 Engineering Mechanics	January, Semester 1, Semester 2	12.50
ELEN20005 Foundations of Electrical Networks	January, Semester 2	12.50
CHEN20009 Transport Processes	Semester 2	12.50
BMEN30007 Biocellular Systems Engineering	Semester 2	12.50
BMEN30005 Biomechanics and Biotransport	Semester 1	12.50
BMEN30008 Biosystems Design	Semester 2	12.50
ELEN30010 Digital System Design	Semester 1	12.50
ELEN30011 Electrical Device Modelling	Semester 2	12.50
ELEN30009 Electrical Network Analysis and Design	Semester 1	12.50
ELEN30013 Electronic System Implementation	Semester 2	12.50
ENGR30001 Fluid Mechanics & Thermodynamics	Semester 1, Semester 2	12.50
BMEN30006 Fundamentals of Biosignals	Semester 1	12.50
CHEN30005 Heat and Mass Transport Processes	Semester 1	12.50
MCEN30014 Mechanical Design	Semester 2	12.50
MCEN30016 Mechanical Dynamics	Semester 1	12.50
MCEN30017 Mechanics & Materials	Semester 1	12.50
CHEN30009 Process Dynamics and Control	Semester 2	12.50
CHEN30001 Reactor Engineering	Semester 1	12.50
CVEN30008 Risk Analysis	Not offered 2011	12.50
ELEN30012 Signals and Systems	Semester 2	12.50
CVEN30009 Structural Theory and Design	Not offered 2011	12.50
CVEN30010 Systems Modelling and Design	Not offered 2011	12.50
MCEN30015 Thermofluids	Not offered 2011	12.50

Environments (Level 1)

Subject	Study Period Commencement:	Credit Points:
ENVS10006 Mapping Environments	Not offered 2011	12.50
ENVS10001 Natural Environments	Not offered 2011	12.50

Environmental Science

Subject	Study Period Commencement:	Credit Points:
EVSC20004 Blue Planet-Intro to Marine Environments	Not offered 2011	12.50
EVSC30003 Environmental Risk Assessment	Semester 1	12.50
EVSC30002 Problem Solving in Environmental Science	Semester 2	12.50

Food Science

Subject	Study Period Commencement:	Credit Points:
FOOD20003 Food Chemistry, Biology and Nutrition	Semester 1	12.50
FOOD20006 Food Microbiology and Safety	Semester 2	12.50
FOOD30008 Advanced Food Analysis	Semester 1	12.50
FOOD30007 Food Processing & Preservation	Semester 1	12.50
FOOD30009 Food Research & Development	Semester 2	12.50
FOOD30010 Functional Foods & Nutrition	Semester 2	12.50

Genetics

Subject	Study Period Commencement:	Credit Points:
GENE20003 Experiments in Genetics	Semester 1, Semester 2	12.50
GENE20002 Genes and Genomes	Semester 2	12.50
GENE20001 Principles of Genetics	Semester 1	12.50
GENE30001 Evolutionary Genetics and Genomics	Semester 1	12.50
GENE30002 Genes: Organisation and Function	Semester 1	12.50
GENE30004 Genetic Analysis	Semester 2	12.50
GENE30005 Human and Medical Genetics	Semester 2	12.50

Geography

Subject	Study Period Commencement:	Credit Points:
GEOG10001 Famine in the Modern World	Semester 1	12.50
GEOG20003 Environmental Politics and Management	Semester 2	12.50
GEOG20002 Understanding Global Landforms	Semester 1	12.50
GEOG20001 Society and Environments	Semester 1	12.50
GEOG20009 Rivers, Lakes and Wetlands	Not offered 2011	12.50
DEVT30001 Africa: Environment, Development, People	Semester 2	12.50
GEOG30007 China Field Class	Semester 2	25
GEOG30001 Coastal Landforms & Processes	Semester 1	12.50
ENST30001 Environmental Change Field Class	Not offered 2011	25
GEOG30004 Fluvial Geomorphology	Semester 2	12.50
GEOG30003 Geographical Thought	Semester 1	12.50
GEOG30022 Rivers: Hydrology and Ecology	Semester 1	12.50
GEOG30019 Sustainable Development	Semester 1	12.50
GEOG30021 The Disaster Resilient City	Semester 2	12.50

Geomatics

Subject	Study Period Commencement:	Credit Points:
GEOM20013 Applications of GIS	Not offered 2011	12.50
GEOM20015 Surveying and Mapping	Not offered 2011	12.50
GEOM30011 Computational Methods in Geomatics	Semester 2	12.50
GEOM30009 Imaging the Environment	Not offered 2011	12.50
GEOM30012 Integrated Spatial Systems	Not offered 2011	12.50
GEOM30008 Land, People and Sustainability	Not offered 2011	12.50
GEOM30010 Programming Geomatics Applications	Semester 1	12.50

Informatics

Additional subjects are listed under 'Science informatics'.

Subject	Study Period Commencement:	Credit Points:
INFO10001 Informatics 1: Data on the Web	Semester 1, Semester 2	12.50
INFO10002 Informatics 2: Programming on the Web	Not offered 2011	12.50
INFO20001 Informatics 3: Content Management	Not offered 2011	12.50
INFO30001 Informatics 4: Web Applications	Semester 2	12.50
INFO30002 Informatics 5: Applied Analytics	Not offered 2011	12.50
INFO30003 Informatics 6: e-Research Project	Not offered 2011	12.50

Mathematics and Statistics

Subject	Study Period Commencement:	Credit Points:
MAST10008 Accelerated Mathematics 1	Semester 1	12.50
MAST10009 Accelerated Mathematics 2	Semester 2	12.50
MAST10005 Calculus 1	Semester 1, Semester 2	12.50
MAST10006 Calculus 2	Semester 1, Semester 2	12.50
MAST10010 Data Analysis 1	Semester 2	12.50
MAST10007 Linear Algebra	Summer Term, Semester 1, Semester 2	12.50
MAST20018 Discrete Maths and Operations Research	Semester 2	12.50
MAST20019 Dynamical Systems and Chaos	Semester 2	12.50
MAST20029 Engineering Mathematics	Summer Term, Semester 1, Semester 2	12.50
MAST20022 Group Theory and Linear Algebra	Semester 2	12.50
MAST20004 Probability	Semester 1	12.50
MAST20006 Probability for Statistics	Semester 1	12.50
MAST20026 Real Analysis with Applications	Semester 1, Semester 2	12.50
MAST20005 Statistics	Semester 2	12.50

MAST20009 Vector Calculus	Semester 1, Semester 2	12.50
MAST30005 Algebra	Semester 1	12.50
MAST30021 Complex Analysis	Semester 1, Semester 2	12.50
MAST30022 Decision Making	Semester 2	12.50
MAST30023 Differential Equations for Engineers	Semester 1	12.50
MAST30012 Discrete Mathematics	Semester 2	12.50
MAST30024 Geometry	Semester 2	12.50
MAST30011 Graph Theory	Semester 1	12.50
MAST30025 Linear Statistical Models	Semester 1	12.50
MAST30026 Metric and Hilbert Spaces	Semester 2	12.50
MAST30027 Modern Applied Statistics	Semester 2	12.50
MAST30028 Numerical and Symbolic Mathematics	Semester 1	12.50
MAST30029 Partial Differential Equations	Semester 2	12.50
MAST30020 Probability and Statistical Inference	Semester 1	12.50
MAST30001 Stochastic Modelling	Semester 2	12.50
MAST30013 Techniques in Operations Research	Semester 1	12.50

Microbiology and Immunology

Subject	Study Period Commencement:	Credit Points:
MIIM20003 Experimental Microbiology	Semester 1, Semester 2	12.50
MIIM20001 Principles of Microbiology & Immunology	Semester 1	12.50
MIIM30003 Medical and Applied Immunology	Semester 2	12.50
MIIM30011 Molecular and Medical Microbiology	Not offered 2011	12.50
MIIM30002 Principles of Immunology	Semester 1	12.50
MIIM30013 Techniques in Microbiology & Immunology	Semester 1, Semester 2	12.50
MIIM30014 Viruses and Other Parasites	Not offered 2011	12.50

Neuroscience

Subject	Study Period Commencement:	Credit Points:
NEUR30003 Principles of Neuroscience	Semester 1	12.50
NEUR30004 Sensation Movement and Complex Functions	Semester 2	12.50
OPTO30007 Visual Neuroscience	Semester 2	12.50
NEUR30005 Developmental Neurobiology	Semester 2	12.50

Pathology

Subject	Study Period Commencement:	Credit Points:
PATH20001 Exploring Human Disease - Science	Semester 2	12.50

PATH30004 Advanced Investigation of Human Disease	Semester 2	12.50
PATH30003 Consequences of Human Disease	Semester 2	12.50
PATH30001 Mechanisms of Human Disease	Semester 1	12.50
PATH30002 Techniques for Investigation of Disease	Semester 1	12.50

Pharmacology

Subject	Study Period Commencement:	Credit Points:
PHRM20001 Pharmacology: How Drugs Work	Semester 2	12.50
PHRM30003 Drug Treatment of Disease	Semester 2	12.50
PHRM30002 Drugs Affecting the Nervous System	Semester 2	12.50
PHRM30009 Drugs in Biomedical Experiments	Semester 1, Semester 2	12.50
PHRM30008 Drugs: From Discovery to Market	Semester 1	12.50

Physics

Subject	Study Period Commencement:	Credit Points:
PHYC10003 Physics 1	Semester 1	12.50
PHYC10001 Physics 1: Advanced	Semester 1	12.50
PHYC10005 Physics 1: Fundamentals	Semester 1	12.50
PHYC10002 Physics 2: Advanced	Semester 2	12.50
PHYC10006 Physics 2: Life Sciences & Environment	Semester 2	12.50
PHYC10004 Physics 2: Physical Science & Technology	Semester 2	12.50
PHYC20011 Electromagnetism and Optics	Semester 2	12.50
PHYC20010 Quantum Mechanics and Special Relativity	Semester 1	12.50
PHYC20009 Thermal and Classical Physics	Semester 1	12.50
PHYC30019 Astrophysics	Semester 1	12.50
PHYC30012 Computational Physics	Semester 2	12.50
PHYC30020 Quantum Systems	Semester 2	12.50
PHYC30016 Electrodynamics	Semester 1	12.50
PHYC30014 Laboratory Work A	Semester 1, Semester 2	12.50
PHYC30015 Laboratory Work B	Semester 1, Semester 2	12.50
PHYC30013 Principles and Applications of Sensors	Not offered 2011	12.50
PHYC30018 Quantum Physics	Semester 1	12.50
PHYC30017 Statistical Physics	Semester 2	12.50
PHYC30011 Sub-atomic Physics	Semester 2	12.50

Physiology

Subject	Study Period Commencement:	Credit Points:

PHYS20008 Human Physiology	Semester 1, Semester 2	12.50
PHYS20009 Research-Based Physiology	Semester 1, Semester 2	12.50
PHYS30001 Cardiovascular Health: Genes & Hormones	Semester 1	12.50
PHYS30008 Frontiers in Physiology	Semester 2	12.50
PHYS30005 Muscle and Exercise Physiology	Semester 1	12.50
NEUR30002 Neurophysiology: Neurons and Circuits	Semester 1	12.50

Plant Science

Subject	Study Period Commencement:	Credit Points:
BOTA20004 Flora of Victoria	February	12.50
BOTA20002 Plant Biodiversity	Semester 2	12.50
BOTA20001 Plants and the Environment	Semester 1	12.50
BOTA30006 Field Botany	January	12.50
BOTA30003 Plant Physiological Ecology	Not offered 2011	12.50
BOTA30001 Marine Botany	December	12.50
BOTA30007 Marine Phytoplankton of Australia	November	12.50
BOTA30005 Plant Molecular Biology & Biotechnology	Semester 2	12.50
BOTA30002 Plant Systematics and Evolution	Semester 1	12.50
BOTA30004 Vegetation Management and Conservation	Semester 2	12.50

Psychology

Subject	Study Period Commencement:	Credit Points:
PSYC10003 Mind, Brain & Behaviour 1	Semester 1	12.50
PSYC10004 Mind, Brain and Behaviour 2	Semester 2	12.50
PSYC20006 Biological Psychology	Semester 1	12.50
PSYC20007 Cognitive Psychology	Semester 2	12.50
PSYC20008 Developmental Psychology	Semester 1	12.50
PSYC20009 Personality and Social Psychology	Semester 2	12.50
PSYC30022 Advanced Personality & Social Psychology	Semester 2	12.50
PSYC30017 Advanced Studies of Human Cognition	Semester 1	12.50
PSYC30016 Developing Persons in Social Worlds	Semester 1	12.50
PSYC30019 Development of the Thinking Child	Semester 2	12.50
PSYC30018 Neuroscience and the Mind	Semester 1	12.50
PSYC30015 Organisational Psychology	Semester 2	12.50
PSYC30021 Psychological Science: Theory & Practice	Semester 2	12.50
PSYC30020 Psychology of Sleep and Emotions	Semester 2	12.50

PSYC30013 Research Methods for Human Inquiry	Semester 1	12.50
PSYC30014 The Psychopathology of Everyday Life	Semester 2	12.50
PSYC30012 The Unconscious Mind	Semester 1	12.50

Science (General)

Subject	Study Period Commencement:	Credit Points:
MULT10011 Introduction to Life, Earth and Universe	Semester 1	12.50
MULT20007 Life, Earth & Universe 2	Not offered 2011	12.50

Science (Research)

Subject	Study Period Commencement:	Credit Points:
SCIE30001 Science Research Project	Summer Term, Semester 1, Semester 2	12.50

Science Informatics

Additional subjects are listed under 'Informatics'.

Subject	Study Period Commencement:	Credit Points:
SINF20006 Information Visualisation	Not offered 2011	12.50
SINF20007 Information Modelling	Not offered 2011	12.50
SINF30007 Distributed Information	Semester 1	12.50
SINF30004 Human Computer Interaction	Semester 1	12.50
SINF30005 Mobile Computing	Not offered 2011	12.50
SINF30008 Science Informatics in Practice	Not offered 2011	12.50

Veterinary Science

A number of Level 3 Veterinary Science subjects will be quota-restricted.

Subject	Study Period Commencement:	Credit Points:
VETS20014 Foundations of Animal Health 1	Semester 1	12.50
VETS20015 Foundations of Animal Health 2	Semester 2	12.50
VETS30011 Animal Disease Biotechnology 1	Semester 1	12.50
VETS30012 Animal Disease Biotechnology 2	Semester 2	12.50
VETS30013 Animal Health in Production Systems	Semester 2	12.50
VETS30014 Veterinary Bioscience: Cardiovasc System	Semester 2	12.50
VETS30015 Veterinary Bioscience: Cells to Systems	Semester 1	12.50
VETS30016 Veterinary Bioscience: Digestive System	Semester 1	12.50
VETS30017 Veterinary Bioscience: Metab & Excretion	Semester 1	12.50
VETS30018 Veterinary Bioscience:Respiratory System	Semester 2	12.50

Vision Science (Level 1)

Subject	Study Period Commencement:	Credit Points:

OPTO10002 Optics: From Rainbows to Digital Imaging	Semester 2	12.50
OPTO10001 Vision: How The Eye Sees The World	Semester 1	12.50

Zoology

Subject	Study Period Commencement:	Credit Points:
ZOOL20005 Animal Structure and Function	Semester 1	12.50
ZOOL20004 Australian Wildlife Biology	Semester 1	12.50
ZOOL20006 Comparative Animal Physiology	Semester 2	12.50
ZOOL30006 Animal Behaviour	Semester 1	12.50
ZOOL30004 Evolution and the Human Condition	Semester 1	12.50
ZOOL30007 Experimental Animal Behaviour	Semester 1	12.50
ZOOL30008 Experimental Marine Biology	February	12.50
ZOOL30009 Field Biology of Australian Wildlife	Semester 2	12.50
BIOL30001 Reproduction	Semester 2	12.50

Breadth Options:

Breadth subjects offer you the opportunity to choose additional subjects from outside your major study area (**learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html)**) .

View breadth subjects for this course (/faces/htdocs/user/breadth/BreadthSearchResults.jsp?breadthcourse=B-SCI&year=2011) .

Breadth Tracks:

Available Breadth Tracks

Entry Requirements:

For the most up-to-date admission requirements, go to:

http://www.futurestudents.unimelb.edu.au (http://www.futurestudents.unimelb.edu.au)

Core Participation Requirements:

The Bachelor of Science welcomes applications from students with disabilities. It is University and degree policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the degree.The Bachelor of Science requires all students to enrol in subjects where they will require:(1) the ability to comprehend complex science, technology and/or engineering systems related information;(2) the ability to clearly and independently communicate a knowledge and application of science, technology and engineering systems principles and practices during assessment tasks; and in some areas of study:(3) the ability to actively and safely contribute in clinical, laboratory, and fieldwork/excursionactivities.Students must possess behavioural and social attributes that enable them to participate in a complex learning environment. Students are required to take responsibility for their own participation and learning. They also contribute to the learning of other students in collaborative learning environments, demonstrating interpersonal skills and an understanding of the needs of other students. Assessment may include the outcomes of tasks completed in collaboration with other students.There are additional inherent academic requirements for some major studies and subjects, and these requirements are listed within the description of the requirements for each of these majors and subjects.Students who feel their disability will impact on meeting this requirement are encouraged to discuss this matter with the relevant Subject Coordinator and the Disability Liaison Unit:http://www.services.unimelb.edu.au/disability/Major#specific core participation requirementsAgricultural Science MajorSpecific Core Participation requirements: Fieldwork and PracticalsThe sites essential to this fieldwork are not wheelchair accessible and require students to traverse broken ground. Visual observation and interpretation of the sites is also an essential component, as is specimen and microscope work.Animal Health and Disease Major (Veterinary Bioscience Specialisation)Specific Core Participation requirements: Practical classesThis major requires all students to actively, independently and safely participate in all practical classes, utilising a range of observational, communication, motor, intellectual, and behavioural and social skills. Visual acuity, muscle coordination, balance, and sensory

	tactile perception are essential for participation. Details of the participation requirements can be found at http://www.vet.unimelb.edu.au/docs/CoreParticipationReqs.pdfAnimal Health and Disease Major (Animal Disease Biotechnology Specialisation)Specific Core Participation requirements: Practical classesThis major requires all students to actively, independently and safely participate in all practical classes, utilising a range of observational, communication, motor, intellectual, and behavioural and social skills. Visual acuity, muscle coordination and balance are essential for participation. Details of the participation requirements can be found at http://www.vet.unimelb.edu.au/docs/CoreParticipationReqsBSc.pdfAnimal Science and Management MajorSpecific Core Participation requirements: Fieldwork, practicals and laboratory experimentsThe sites essential to this fieldwork are not wheel chair accessible and may require students to traverse broken ground. Students are also required to undertake experiments including specimen and microscope work with assessment reliant on careful observation and visual interpretation of results. Practicals may also involve handling and working with animals.Chemical SystemsSpecific Core Participation requirements: Laboratory experimentsThis major requires students to undertake experiments using specialist software with assessment reliant on careful observation and visual interpretation of results.Ecology and Evolutionary Biology MajorSpecific Core Participation requirements: FieldworkThe sites essential to this fieldwork are not wheelchair accessible and require students to traverse broken ground. Visual observation and interpretation of the sites is also an essential component. Food Science Major Specific Core Participation requirements: Laboratory experiments This major requires students to undertake experiments using specialist software with assessment reliant on careful observation and visual interpretation of results.Geology MajorSpecific Core Participation requirements: FieldworkThe sites essential to this fieldwork are not wheelchair accessible and require students to traverse broken ground. Visual observation and interpretation of the sites is also an essential component, as is specimen and microscope work.
Further Study:	The Bachelor of Science degree provides pathways to honours, graduate professional entry degrees or, upon completion of appropriate research training preparation following the BSc, research higher degrees. Honours Depending on the major undertaken, students may apply for an Honours program upon completion of the Bachelor of Science. Further details are available on the BSc website: **http://www.bsc.unimelb.edu.au/pathways/honours (http://www.bsc.unimelb.edu.au/pathways/honours)** Graduate Professional Entry Degrees For students who wish to continue professional studies at graduate level, the degree provides a pathway into a range of graduate professional entry programs, some of which also provide research training. **http://futurestudents.unimelb.edu.au/grad/grad-programs/professional-entry (http://futurestudents.unimelb.edu.au/grad/grad-programs/professional-entry)** Research Higher Degrees For students who wish to explore science research questions in greater depth, there will be opportunities to proceed to Research Higher Degrees at masters and doctoral level. Research training preparation within the Honours year, Postgraduate Diploma or a Masters degree will be required as preparation for a research higher degree.
Graduate Attributes:	The Melbourne Experience enables our Bachelor of Science graduates to become: Academically excellent Our graduates will be expected to: have a strong sense of intellectual integrity and the ethics of scholarship have a broad knowledge of science across a range of fields, with an in-depth understanding in one or more scientific disciplines understand the methods of science, and the history and evolution of scientific concepts be intellectually curious and apply a rigorous, critical and logical approach to enquiry understand the principles of sound project and experimental design, including data analysis reach a high level of achievement in writing, generic research activities, problem-solving and communication apply outstanding analytical, quantitative and technical skills to problem solving and, where relevant, design be critical and creative thinkers, with an aptitude for continued self-directed learningbe adept at learning in a range of ways, including through information and communication technologies Knowledgeable across disciplines Our graduates will be expected to: examine critically, synthesise and evaluate knowledge across a broad range of disciplinesexpand their analytical and cognitive skills through learning experiences in diverse subjectshave the capacity to participate fully in collaborative learning and to confront unfamiliar problemshave a set of flexible and transferable skills for different types of employment, including:excellent organisational, planning and time management skills ability to access, evaluate and utilise information from

	diverse sources ability to communicate their ideas effectively in both written and verbal formats to both specialists and non-specialists knowledge, skills and attitude that enable adaptation to scientific, technological and social change. Leaders in communities Our graduates will be expected to: initiate and implement constructive change in their communities, including professions and workplaceshave excellent interpersonal and decision-making skills, including an awareness of personal strengths and limitationsmentor future generations of learnersengage in meaningful public discourse, with a profound awareness of community needs Attuned to cultural diversity Our graduates will be expected to: value different culturesbe well-informed citizens able to contribute to their communities wherever they choose to live and workhave an understanding of the social and cultural diversity in our communityrespect indigenous knowledge, cultures and values Active global citizens Our graduates will be expected to: accept social and civic responsibilitiesbe advocates for improving the sustainability of the environmenthave a broad global understanding, with a high regard for human rights, equity and ethics
Generic Skills:	A detailed description of the generic skills expected of a graduate of the Bachelor of Science is contained within the University graduate attributes summary (see 'Graduate Attributes').